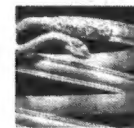


FOLIO

UNIVERSITY OF ALBERTA

24 JANUARY 1992



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- Chemical engineering professor a role model for female students
- Printing Services boasts of DocuTech system

Dovichì one scientist who's rocketed to the top

Winning of Steacie Prize his latest accomplishment

Seeing his name immediately after the words "Pay to the order of" had a strong effect on Norm Dovichì. The 17-year-old wage earner had just graduated from high school in Chicago and was uncertain as to career plans. His family of six was of modest means and he feared the intrusion of a distant uncle named Sam. (It was 1972, the last year of the Vietnam draft.)

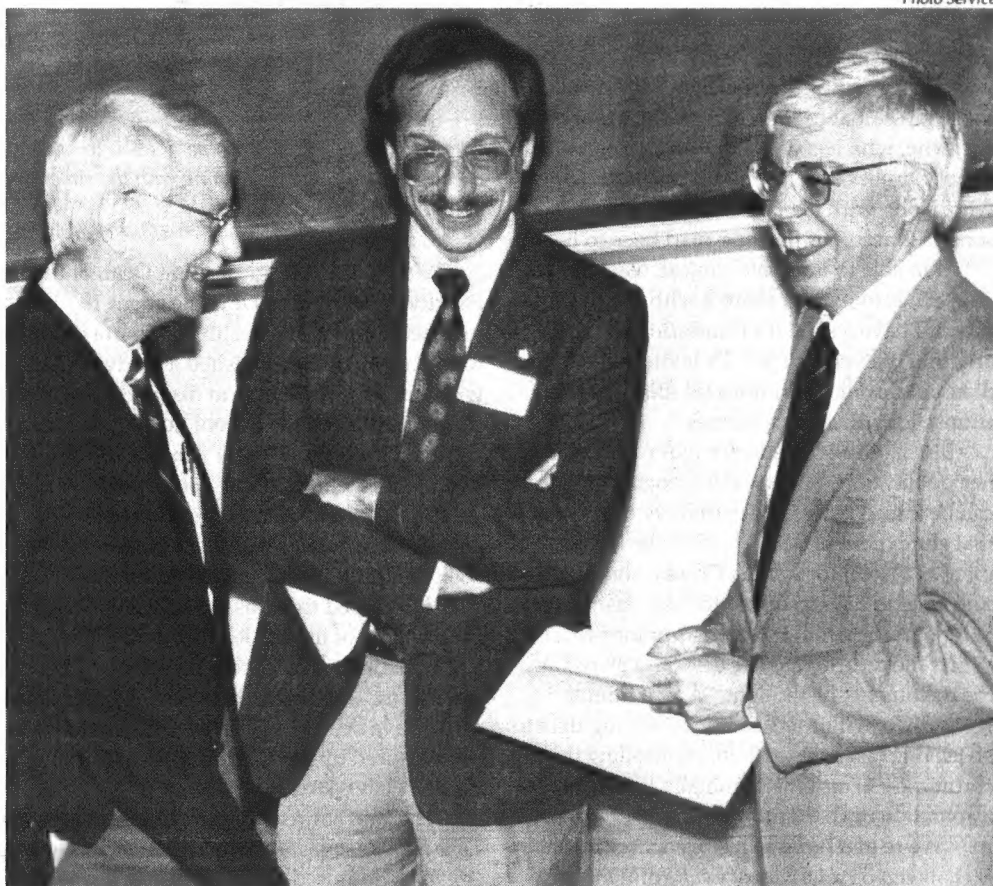
An application to Marquette University in Michigan didn't pan out because there was no financial aid program he could pursue. So it was that payment from the machine shop where he was working for the summer was looking better and better. His decision, deep in August, to go to Northern Illinois University proved to be momentous. If putting oneself through school were music, Dr Dovichì gave a virtuoso performance, earning honors in chemistry and applied mathematics while holding as many as three part-time jobs at once.

As his days as an undergraduate drew to a close in 1976, he had formulated a good idea of what he wanted to do and applied to a number of graduate schools, ultimately settling on the University of Utah and specializing in analytical chemistry, "for many years the sickly child of chemistry." There followed a postdoctoral fellowship at the National Laboratory in Los Alamos, New Mexico, which Dr Dovichì calls "the most important step in my career. I was able to spend half my time learning totally new things, especially in biophysics, and it was the first time I did collaborative work."

He went from Los Alamos to the University of Wyoming where he taught for four years, years that, while productive, weren't without a certain amount of infighting and the thought that perhaps he could be doing bigger things elsewhere. When a feeler from the U of A's Department of Chemistry landed on his desk, Dr Dovichì wasted no time packing his degrees, texts, papers and skis and heading to Edmonton.

"The reason I came here was the strength of the analytical chemistry program that was started by Walter Harris." Dr Dovichì contends that it's the only program of its kind in Canada that's strong, and attributes much of its success to colleagues such as Gary Horlick, Fred Cantwell, Ron Kratochvil and Paul Kekarle.

Since arriving here in 1986, Dr Dovichì has made strides as few others have. He set up a research group which developed technology to speed up DNA sequencing, greatly enhancing the process by which the make-up of genes is determined. The long-range goals are to make it easier to duplicate genes artificially, find the causes of genetic diseases, predict their occurrence, and ultimately eliminate them.



Steacie Prize winner Norm Dovichì (centre) is congratulated by Ron Kratochvil (left), Chair of the Chemistry Department, and President Paul Davenport. The \$7,500 cash award goes to Canada's most outstanding scientist under the age of 40.

Dr Dovichì has contributed substantially to the improvement of detection technology. In the area of high sensitivity laser-induced detection of biological materials, for example, he has developed a technique for the analysis of one zeptomole (600 molecule) quantities of amino acids—a 10,000-fold improvement on previous technology.

His research group of eight graduate students, two postdoctoral fellows and assorted undergraduate students ("It's been growing quite rapidly due to recent fundraising successes") leads in research on three of the nine areas listed by *Science* magazine in 1990 as "Hot Tools" for biological science: micro-protein sequencing; capillary electrophoresis and laser-based detection.

"These advances," states a press release from the Natural Sciences and Engineering Research Council, "make his team a world leader in developing DNA sequencing technology and in the search for a blueprint of human genes that could revolutionize disease diagnosis and treatment."

Vigilance and serendipity have helped immeasurably. "You have a vague idea of what you want to do, but you always find something unexpected along the way," he says of his research initiatives. Personnel is a surprisingly important factor, Dr Dovichì says. "Someone calls and says, 'I can do such and such' and you say, 'Great, come in and we'll see what happens.'" The research into DNA sequencing really got going because of the visit of a postdoctoral fellow from the University of Utah, Dr Dovichì points out.

The scientific advances he has made translate into high level awards such as the WAE McBryde Medal bestowed by the Chemical Society of Canada and, most recently, an EWR Steacie Memorial Fellowship and the 1992 Steacie Prize awarded by the National Research Council. Dr Dovichì, the first U of A scientist to receive both a Steacie Fellowship and the Steacie Prize in the same year, has also attracted outside research funding to the University of Alberta (some \$1.2 million to date, including a \$300,000 grant from the US Human Genome Project to develop an advanced version of his instrumentation).

The Steacie Fellowships (four are awarded annually to the best and most promising of Canada's younger scientists) carry the award of salary plus benefits and thus give recipients a two-year release from teaching and administrative duties. It's this condition as much as the prestige that pleases Dr Dovichì. It provides "tremendous freedom," he says, explaining that while he loves teaching, he has been feeling the strain brought on by frequenting the classroom by day and his lab by night.

Dr Dovichì accepted the Steacie Fellowship in Ottawa 14 January and the Steacie Prize 20 January here at the U of A. He is the third U of A researcher to win a Steacie Fellowship (the others were nuclear physicist Mohsen Razavy in 1966 and zoologist RE Peter in 1980. Dr Dovichì joins physicist Gordon Rostoker (1979) and biochemist Brian Sykes (1982) as this University's recipients of the Steacie Prize, named in honour of Edgar William Richard Steacie (1900 - 1962), the acknowledged leader of Canadian science.

Animal care facilities and expertise 'second to none,' says David Neil

AHFMR demonstrated informed leadership on the issue

A PACCR Report, a report from the Canadian Council on Animal Care, an independent consultants' report in the mid-'80s and an internal study all said basically the same thing: the University's animal care facilities were in a deplorable state.

"Quite frankly, we really didn't have animal facilities anywhere that could be regarded as satisfactory; they varied from being marginal to being absolutely and totally unacceptable," says David Neil, Director and Professor, Division of Health Sciences Laboratory Animal Services, Faculty of Medicine, who took on the job in July 1986.

This coincided with an ever-increasing demand for services by researchers supported by the Alberta Heritage Foundation for Medical Research, he explains, noting there was incredible pressure on the unit to meet the demands.

Five and one-half years later, Dr Neil says the University has some of the most highly trained animal technicians in Canada and an organization which is second to none in terms of its expertise and its ability to provide sensitive and humane care for the animals.

"We were hampered considerably by the facilities because there was an increasing need for animals to be kept in disease-free conditions. And we really didn't have the facilities to do it," he says, adding that technicians had to buy mobile air filtration equipment and construct plastic tents within rooms. It was an uphill struggle and there was a very real danger to the University's research capabilities.

"We knew as early as October 1986 that substantial physical change had to be implemented." And it wasn't easy to educate the University as a whole to understand the severity of the problem and the urgent need to do something about it. "It was very easy for the University Animal Policy and Welfare Committee [members] to understand."

Now, in 1992, with \$8.4 million in funding from the provincial government, people working within the unit are watching new facilities take shape before their eyes, facilities which will encompass approximately 48,000 square feet of space in the Heritage Medical Research Building.

AHFMR had included some space for animal facilities in its original planning for the building, "but when the extent of the problem was realized, a greater area was designated for the use of animals. And of course that had to be agreed upon by AHFMR. They accepted it and actually funded it," Dr Neil explains.

Continued on page 5

Waste management study begins

The University of Alberta has retained Kilborn Western Inc to conduct a waste management study on campus. The objective of the study is to provide a comprehensive report that 1) quantifies and qualifies the waste generated; 2) identifies waste handling, collection and disposal methods appropriate for the University; and 3) develops a strategy for implementing the recommendations.

Wastes to be examined will include solid and construction wastes, and hazardous waste, for example, chemicals, radioactive waste, biomedical waste and organic waste. Interviews will be conducted over the next six weeks with administrators, faculty, students, and Physical Plant and Occupational Health and Safety staff.

The University currently has recycling systems in place and has sought new markets for some of the existing wastes. These initiatives as well as new waste management and disposal technologies will be reviewed in the study, says Stan Ostapowich, Associate Director, Utilities, Department of Physical Plant.

Kilborn Western Inc plans to conduct several meetings/focus groups with participation by administrators, faculty, student representatives and local interest groups to investigate specific waste generation in various areas across the campus.

The study is expected to be completed by June 1992. Members of the University community who have questions or who wish to contribute to the study are advised to call Agnelo da Silva or Stan Ostapowich, Physical Plant, at 492-4261, or Kelvin Pearson, Kilborn Western Inc, at 488-7600.

Nature and enhancement of hope intrigue Killam Professor

"The understanding of hope, a readily acknowledged but seldom investigated human phenomena, will, I believe, be an enduring scholarly pursuit."

The speaker is Ronna Fay Jevne, Professor of Educational Psychology and one of this year's Killam Professors.

There are innumerable references to hope in song, story and verse but, says Dr Jevne, "there's been remarkably little [academic] work done in the area." The material that did exist was too pedantic, thus making it difficult for the professional to share it with the client, says Dr Jevne, who has worked with cancer patients, families and health care providers, and who, along with her spouse, has experienced serious illness and the long road back to health.

"I'm able to integrate clinical, teaching and research activity and share it with the community. If I have a skill, it's translating the scholarly into the vernacular," Dr Jevne, a researcher of hope, chronic conditions (of illness) and counsellor education, declares.

Much of the impetus for that research (and her publications and speaking engagements) can be traced back to an extremely trying day that she experienced as Head of the Department of Psychology at the Cross Cancer Institute. She became so upset that she dashed off a letter of resignation between appointments. When she returned to her desk and stared at the document she thought, 'Wait a minute, Jevne, there's more reason to be staying than to be leaving.' Ever since then, counselling the chronically ill and the terminally ill has held no trepidation or discomfort for her.

"We're at a point in history where our hope is challenged from almost every dimension," Dr Jevne says. "We're entering an era where chronic illness will kill about 90 percent of us." Saying that her work is an adjunct to medicine and education and not an alternative, Dr Jevne is convinced that "we [people in good health] have knowledge, they [the terminally ill] have wisdom. I want to bring the two together." It is her belief that such reciprocity will serve society well by enhancing hierarchical teaching, intervention and research modes.



One Ronna Fay Jevne's commitments is to one-on-one help for patients dealing with the stress of illness.

With Harvey Zingle, Acting Dean of the Faculty of Education, Dr Jevne spent 18 months studying the health of Alberta educators. They recently published a study dealing with teachers on long-term disability. A joint project of the Alberta School Employee Benefit Plan and the University of Alberta, the study notes that teaching is now considered among the high stress professions and that some 600 Alberta teachers are presently on long-term disability for physical and emotional conditions.

"It is hoped that this study has widened the window of insight leading to prevention and remediation of teacher health disabling conditions," the researchers state. Copies of the study have been placed in every school that's been insured by the Alberta School Employee Benefit Plan Board.

A second source of pride for Dr Jevne is *No Time for Nonsense: Self-Help for the Seriously Ill* (1989) (coauthored with Alexander Levitan, MD), a book intended to help people learn to live with their illness. A soon-to-be source of pride is the Alberta Foundation of Hope, to be opened in Edmonton with the financial support of the business community. Under the auspices of the Foundation, Dr Jevne plans to integrate her activities as a professional psychologist, a counsellor and a member of the community.

KILLAM ANNUAL PROFESSORSHIPS DEADLINE

Applications and all letters of support concerning the appointment of this year's (1992-93) eight Killam Annual Professorships must be received by the Office of the Vice-President (Research) no later than 31 January.

For more information, call Barbara Bohdan, 492-0868

Want to transform your brain wave into commercial success?

If you've got a great idea, but don't know how to turn it into a commercial success, perhaps it would be a good idea to have a chat with John Holub, PEng.

Holub, who has worked extensively with entrepreneurs, managers and owners, is the Stollery Executive-in-Residence in the Department of Mechanical Engineering, 27 to 31 January. He's been advising people on how to commercialize their products for more than two decades and is knowledgeable on the basic planning for production, project financing, intellectual property rights and marketing.

This year's theme is "Technology Innovation and Commercialization". Holub, who has worked as a "troubleshooter" in the production planning and productivity improvement, will advise engineering students who have ideas.

The executive-in-residence program in the Faculty of Engineering was developed by the Faculty in consultation with long-time Faculty supporter, Robert Stollery, Chair of PCL Constructors Inc. With his financial assistance, the program began in 1990. Its objective is to bring engineering executives on campus to work with students, present lectures, visit faculty members and discuss curriculum and research.

WANTED: INFORMATION ON KOREAN-CANADIAN ACADEMIC RELATIONS

Very active relationships have developed between the University of Alberta and Korean institutions in the past decade, including mutual visitations of academics as well as student exchanges. However, records of these activities have not been compiled in either country.

CY Oh, Professor Emeritus of Adult, Career and Technology Education, has been commissioned to prepare a detailed listing which can serve as a record of past experiences and a resource for future planning. Results of the research will be presented at the next Canada-Korea bilateral conference to be held at the University of Alberta this fall.

Dr Oh is looking for: U of A students who have studied or are studying in Korea; U of A academics who have visited or are visiting Korea; U of A academics who have worked or are working jointly with Korean academics; and, similarly, Korean students and academics who have studied, visited, or cooperated on projects at the University of Alberta or are currently engaged in these activities.

"Any information leading to the names and activities of these people is greatly appreciated," Dr Oh says.

A short questionnaire has been developed to compile the information (deadline: 14 February); copies can be obtained from the offices of Adult, Career and Technology Education (492-0236) or by contacting Margaret Sadler at 492-5048.

FOLIO

Volume 29 Number 22

OFFICE OF PUBLIC AFFAIRS,
423 ATHABASCA HALL
UNIVERSITY OF ALBERTA, EDMONTON,
ALBERTA T6G 2E8

TEL: (403) 492-2325 FAX: 492-2997

MTS - TJMH PROFS - ZZOPA

All enquiries and correspondence should be directed to:
RON THOMAS: EDITOR
MICHAEL ROBB: ASSISTANT EDITOR

Public Affairs produces *Folio* on a regular basis for the staff and other interested persons.

DEADLINES:

Notice of coming events: 9 am three weeks in advance of event. **Classified advertisements:** 3 pm one week before desired publication date. This date also serves as the deadline for cancellation of advertisements.

Advertisements cost 40 cents per word with no discount for subsequent insertions. There is a limit of 30 words and a minimum charge of \$2.00. Advertisements cannot be accepted over the telephone. All advertisements must be paid for in full at the time of their submission.

Display advertisements: 3 pm Thursday, eight days before desired publication date. Camera ready artwork is required to size, complete with halftones if necessary. Contact Public Affairs for sizes, rates and other particulars.

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'ISSUES IN GRADUATE STUDENT SUPERVISION'

The Research Grants Office and the Faculty of Graduate Studies and Research (FGSR) are organizing a workshop on "Issues in Graduate Student Supervision." The workshop will take place 5 February from 12:30 to 4:30 pm and will feature a number of small discussion groups, each of which will focus on one specific issue.

There is still space in the following sessions:

The Role of the Supervisor in Determining Time-to-Degree
Doug Owram (History) and Diane Taylor (Medical Microbiology)

Composition of Thesis Committees and Selection of External Readers/Examiners
Robert Jordan (Chemistry) and John Brown (Business)

Supervision in Joint, Special and Interdisciplinary Programs
Richard Stein (Neurosciences/Physiology) and Donald Heth (Psychology)

Supervisor's Connection to Grant Applications
William McGill (Soil Science/FGSR) and Isobel Grundy (English)

Gender Issues (in recruitment, course and program design, completion patterns)
Rosalind Sydie (Sociology) and Ann Hall (Physical Education and Sport Studies)

Who Owns the Intellectual Property in Graduate Student Research?
David Norwood (Intellectual Property and Contracts) and Dan Smith (Civil Engineering)

Potential Nightmares: Inadequate Performance, Plagiarism, Scholarly Misconduct, Appeals
Tony Kernahan (Physics/FGSR) and William McBlain (Endocrinology)

The workshop closes with a question period and an informal wine and cheese reception.

To register, contact Susan Babcock, Coordinator of Programs, Research Grants Office, 492-2938, by Friday, 24 January.

Chemical engineer acutely aware of her status as role model for female students

As a high school student growing up in Charlottetown, Prince Edward Island, Suzanne Kresta earned her best marks in chemistry class. "So I went and talked to chemists and chemical engineers," says Dr Kresta, who recently assumed a tenure-track position with one of the University's strongest departments, Chemical Engineering.

"I liked the engineers I met, and I really couldn't see myself working only in laboratories. I wanted to build things," says Dr Kresta, who earned her undergraduate degree at the University of New Brunswick, was awarded a Commonwealth Scholarship which took her to the University of Leeds where she earned her master's, and then went on to do her PhD at McMaster University.

The specialist in fluid dynamics in stirred tanks explains that her research pertains to just how chemical engineers measure how much

mixing is going on and the fluid mechanics associated with that mixing. She characterizes her arrival as a "beautiful fit" with the other professors in the department, saying that their expertise nicely dovetails with her own.

"I come in and bring turbulence and I want to get into particles. And within the department there are all these people doing applications that are related to those things, so it's just a perfect fit," says Dr Kresta, whose primary objectives initially are to get her lab up and running, teach a senior lab course and supervise graduate students next September. She also wants to establish industry contacts and secure funding for her research endeavours.

Dr Kresta is acutely aware of the example she sets for female engineering students. "The first time I walked in to do a lecture as a tutorial assistant, the female students in the class happened to be sitting together in one group. It made a real impression on me because I looked at them and all of their faces were lit up. 'She's one of us up there—we're really going to make it!'"

"I think it's really important [that female students have role models] and that's one of the reasons why I chose the academic route as opposed to the industrial route," she said. "I love practical engineering, but I think it's very important to have educators who are representative of all the groups that we find in our student body."

Asked whether she feels some pressure as a result of the current climate on campuses, Dr Kresta says, "I'm very aware of speaking carefully in almost every situation I find myself in. It's a consequence of being a visible minority, and, therefore, all of your actions are taken to represent that group. Whereas, if you are one of 10 guys in a class and you act like an idiot, you're just an idiot. But if you're the one female in the class and you act like an idiot, the question arises, are all women like this?"

Her expectations of her department are straightforward: she expects the opportunity to be the best she can be in her scholarly pursuits.



Suzanne Kresta joins a strong department.



Details of the DocuTech system go from Len Young (far right) to interpreter Alexander Batchvarov to Dimitar Tomov and Boris Dragolov (far left).

Printing Services installs DocuTech system

Soon to join the linotype and other hot metal dinosaurs in Printing Services' museum is the AUTOLOGIC APS-5. The APS-5 was king of the hill about five years ago but the rapid improvements in computerized typesetting have made it a commoner.

For Printing Services, the new system of choice is the Xerox DocuTech Production Publisher. By combining scanning, printing and finishing functions into one operation, DocuTech can produce as many as 135 pages per minute with an impressive 600 dots-per-inch resolution. On top of that, DocuTech features concurrent input and output, in other words, it scans in a second job as it prints the first. The system's primary benefit is its ability to shorten the entire publication process by reducing pre-press activities (and time) and automating document finishing. (The system currently scans in documents; a media server which will scan clients' disks is to be added, as is a folding and finishing unit.)

DocuTech has just been installed (the entire manufacturing area is on the lower floor) and the operators' training wrapped up 7 January, a good thing because a hastily arranged tour brought two printing specialists at Sofia University in Bulgaria to campus. "It was a good tour because we have a bit of everything and because our transition stage has just concluded," said Printing Services Director Len Young.

(Printing Services has reduced its staff from 55 to 32 in the last year. "We've downsized the organization but not the service," Young told *Folio*. "With the correct applications of technology we expect to do okay.")

"They [Dimitar Tomov, Director, St Kliment Ohridski University Press, and Art Director Boris Dragolov] want to keep in contact with us, and will likely invite us to their university. They want us to follow up with DocuTech's full specifications," Young said.

A smaller version of DocuTech will soon be added to Printing Services' satellite offices on campus.

In a world of give and take, Lougheed Scholars go heavy on front end

Space medicine, rugby, taxation law, agribusiness, dance, and accountancy are just a few areas in which this year's recipients of Peter Lougheed Scholarships have demonstrated knowledge and leadership.

The 10 1991-92 winners were honoured recently at a luncheon where they received their awards from former Premier Peter Lougheed.

The scholarships are the most prestigious for undergraduates at the University of Alberta. To receive consideration for the award, students must have an academic record of first class standing or be in the top 10 percent of their class, and must show leadership through involvement in University and community organizations.

Lois Stanford, Vice-President (Student and Academic Services), told this year's scholars that they had been chosen from more than 100 applicants. "You will bring distinction to your families and to the University," she said.

Mr Lougheed said he was impressed with the "exciting and diverse number of ways" in which the scholars contributed to the community while excelling academically.

He stressed the importance of leadership in today's world. "I think you're into a tougher environment than we were," he said. "Leadership means not being prepared to be mediocre. You will follow through with being at the forefront of what you do."

This year's Lougheed Scholars are from Edmonton, Calgary, Sherwood Park, Nmao, and Yellowknife, and are pursuing studies in law, accountancy, medicine, education, nursing, English, and agricultural business management.

Their extracurricular activities range from directing choirs to teaching dance and aerobics, from fundraising for the Alberta Hospitals Foundation and volunteering for Student Legal Services to participating in the Environmental Law Society.

Mr Lougheed thanked former President Myer Horowitz and former Vice-President (Academic) Peter Meekison for creating the Peter Lougheed Scholarships, first presented in January 1986. Each scholarship is valued at \$5,000 and is renewable for a second year for the same amount. Ten new awards are available each year.

Photo Services



Pictured with Peter Lougheed are (from left): Krista Dickson, Heidi Chwyl, Robert Campbell, Susan Moisey, Terence Filewych, Eminia Bossio, Craig Bell, Michelle Speer, Dwayne Elford and Teresa McNally.

CURRENTS



General Faculties Council

GFC's next meeting is scheduled for **Monday, 27 January, at 2 pm** in the University Hall Council Chamber.

- 1) Approval of the Agenda
- 2) Approval of the Minutes of 25 November 1991
- 3) Question Period
- 4) Oral Report from the President
- 5) New Members of GFC 1992-93
- 6) Executive Committee Reports
 - 6.1 Summary of Meeting of 9 December 1991
 - 6.2 Summary of Meeting of 6 January 1992
 - 6.3 Summary of Meeting of 20 January 1992
 - 6.4 Summary of Meeting of 24 January 1992
- 7) Reports of the Board of Governors
 - 7.1 Report of 6 December 1991
 - 7.2 Report of 3 January 1992
 - 7.3 Report of 24 January 1992

- 8) Report of the Nominating Committee
- 9) Written Questions on Reports
- 10) Operating Budget Principles and Process 1992-93: Recommendation from the GFC Planning and Priorities Committee (PPC)
- 11) Waiver of Advertising Requirement: Report to GFC from the Vice-President (Academic)
- 12) General Appeals Committee (GAC): 1990-91 Annual Report

13) University Animal Policy and Welfare Committee (UAPAWC): 1991 Annual Report to GFC

14) Quota Reports: Information on Admissions to Quota Programs for 1991-92 and Report of the Senate Committee of Lay Observers of Admissions Process in Quota Programs, 1992 Admissions

15) Reapportionment of Staff and Student Seats on GFC

16) Other Business

Data Library moves

Effective 1 January, the Data library, formerly part of University Computing Systems, became a unit of the University Library. The new location of the Data Library is 4-15 Cameron Library. Data Library consultants can now be reached at 492-5212 and 492-9216.

GST accounting workshops

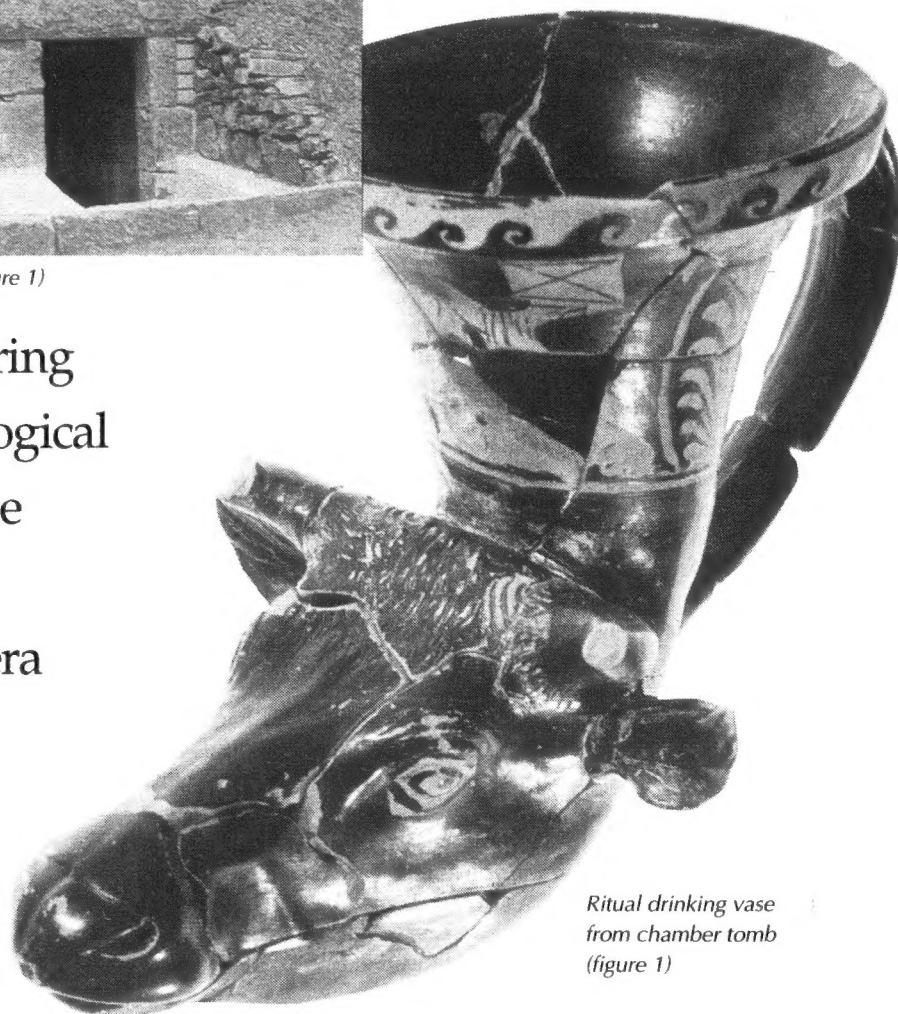
The Office of the Comptroller will conduct GST accounting workshops in mid-February. The workshops are designed to help staff better understand GST regulations, particularly as they relate to University transactions. Staff interested in attending a workshop should contact Fred Greenberg, GST Tax Analyst, Office of the Comptroller, 492-4383.

The University of Alberta in Italy

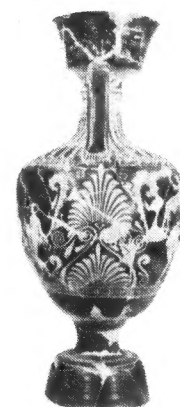


Restored chamber tomb (figure 1)

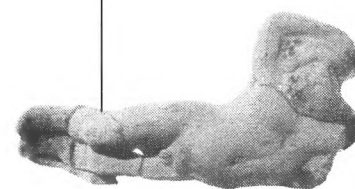
... uncovering
archeological
evidence
of an
earlier era



Ritual drinking vase
from chamber tomb
(figure 1)



Red-figure amphora
(height 60 cm) from tomb of
young 'princess'



Vase in the shape of a
satyr from tomb (figure 1)

ROCCAGLIORIOSA



Classics Professors Helena Fracchia and Maurizio Gualtieri have spent more than a decade of their careers excavating at the fortified site of Roccagloriosa, a native settlement in the hinterland of southern Italy. The classical archeologists have, piece by piece, uncovered evidence of how the community was organized in the period immediately preceding the unification of the Italian peninsula under Roman rule.

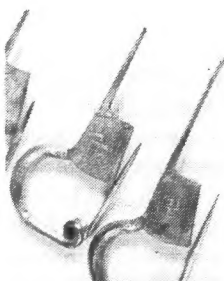
In more recent years, the researchers, who share a joint McCalla Research Professorship for 1991-92, have actively engaged in excavating the areas outside the walls in the surrounding region, documenting the later phases of the site and changing settlement patterns of the region.

The earlier work resulted in *Roccagloriosa I: 1976-1986*, published by the Bibliothèque de l'Institut Français de Naples, volume 8, 1990. Professors Fracchia and Gualtieri are hopeful *Roccagloriosa II* will be published as another volume in the archeological series in January 1993.

The first volume dealt with the major period of activity. "What we now want to do is look at the time periods on either side, a bit earlier and the development of the entire area during the later Roman period, from the mid-3rd century BC until the 5th century AD," Dr Fracchia says.

"The study of this one particular area could perhaps be used as a model for other areas," she says, noting that there were lots of indigenous tribes that underwent the same processes of change. Their own political systems were replaced by one imposed upon them by the Romans.

"When the Romans came in they established new road networks which automatically changed the settlement patterns and demographic spread," Dr Fracchia explains. "Trade and commerce changed a great deal." Evidence of those changes can be found in pottery, metal works, remains of buildings, bits of scrap metal, inscriptions on scrap metal and luxury items such as jewelry. Dr Gualtieri adds that evidence is not found in artifacts alone. "The distribution of sites, of habitation in the wider territory ... that's the scope of the second volume."



Silver 'safety pins'

Artifacts in the area have been well-preserved. Since the hilly, southern region where the site is located—about 500 kilometres from Rome—was at the time a more peripheral area of the Roman world, successive developments have not obliterated the remnants of the period. Artifacts from the same period in settlements closer to the centre of the Roman world are more difficult to find.

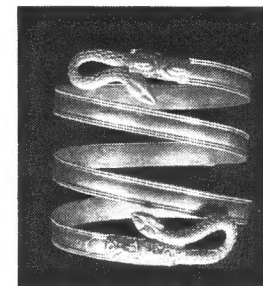
Drs Fracchia and Gualtieri have worked collaboratively with a number of other researchers in the area. Dr Gualtieri, born and raised in Italy, was predisposed to working in the area because he knew the language and culture. That's proved invaluable.

The two professors have also received strong support from agencies in both Canada and Italy. The Social Sciences and Humanities Research Council of Canada and the University's Central Research Fund, among others, have helped fund their activities. In Italy, the national Department of Antiquities has been very supportive. The shared McCalla Professorship enables Drs Fracchia and Gualtieri to write the second volume; many of the chapters are well along.

The University's commitment to Italian archeology is not restricted to Drs Fracchia and Gualtieri, however. (They maintain that the U of A is the only university in Canada committed to Italian archeology.) Five master's theses have been produced as a result of graduate student involvement on site. (At least 12 students have done work on site. The professors also run a summer school at another site.)

The impact of their work is also felt in the classroom. "I think the fact that we're actually working with these things, makes them infinitely more vivid," says Dr Fracchia. "It [the research] gives you the ability as a teacher to excite students because they see that you're excited."

"Archeology is not only a choice of profession, it's also in large part a choice of life," says Dr Gualtieri. "Our research in Italy is a way of regaining energy and contact with what we are teaching."



Gold bracelet from the burial of
an 18- to 20-year-old 'princess'



Terracotta cult statuette (25 cm
high) from household shrine

McCalla Professor knee-deep in surveys

Seeks profile of support personnel in rehabilitation fields

Midway through his year as a McCalla Professor, Paul Hagler (Speech Pathology and Audiology) and 13 researchers are scrutinizing more than 2,000 surveys returned to them from across Canada.

Dr Hagler's study, titled "The Role and Use of Support Personnel in the Rehabilitation Disciplines," aims to provide a profile of these personnel in Canadian educational and health care settings.

The survey was sent to more than 4,000 chief executive officers of hospitals, health clinics, long-term care facilities, and school boards.

Survey results will provide general information on support personnel in the disciplines of occupational and physical therapy, speech-language pathology, and audiology.

"There has been increased use of support personnel in the rehabilitation disciplines in Canada, but there is considerable uncertainty about how support personnel are used, what they are called, how they are supervised, and whether they might be doing work that should be done by professionals," Dr Hagler stated in his application for the Professorship.

Results from the survey and from personal interviews with a sample of respondents will provide a description of support personnel as they are today and as they might be in the

future in terms of their training, responsibilities, and supervision.

Dr Hagler's 1991-92 McCalla Professorship gives him a full year to concentrate on this special initiatives research project, which spans three years and is funded by the National Health Research and Development Program, a division of Health and Welfare Canada.

"We're really excited about (the study) here because we feel what we are doing today may actually influence health care delivery nationwide," he says.

The use of support personnel in the various rehabilitation disciplines could save taxpayers money "presuming a support worker can do a great many of the things that professionals now do," Dr Hagler says.

He thinks the University of Alberta was awarded the project because its Faculty of Rehabilitation Medicine "represents the discipline entirely" and because the Faculty will be able to meet the project's fairly short deadlines. The final report will be completed in June.

Dr Hagler has been a member of the U of A faculty for 16 years. Prior to coming here, he was the senior speech pathologist at Edmonton's Glenrose Hospital.

Animal care Continued from page 1

"They put their money where their mouths were," an action that Dr Neil hails as a breakthrough in changing the whole mindset.

Phase I of the construction is done. Phase II will likely be done by April of this year and Phase III, the addition of about 23,000 square feet, is estimated to be completed by winter 1993. That integrated space will meet the needs of Health Sciences, the area which undoubtedly has the greatest need for the use of animals for research purposes. (From 1 April 1990 to 31 March 1991, 105,499 animals were acquired; 61,872 were mice and 30,343 were rats.)

Dr Neil, a veterinarian by profession, was for 10 years the Director of Animal Care at Colorado State University before accepting the U of A position. He says the new space will enable the division to meet researchers' needs. "The greatest single thing that puts pressure on us in using laboratory animals these days—after the need to handle the animals humanely and well—is to ensure that the work with the animals is not interfered with by the problems of their own diseases."

Following the Second World War, research and the use of laboratory animals took off like never before, but a lot of that initial research was rendered useless because of massive epidemics within large colonies of laboratory animals, Dr Neil says. Disease-free animals were then developed and raised in sterile conditions.

To maintain those kinds of conditions at the U of A requires the use of massive sterilizing equipment and sophisticated ventilation equipment. It also means training people who work to precise operational standards. (There can be no ad hoc decisionmaking.) Noise, temperatures and humidity levels must be rigidly con-

But the issue of caring for laboratory animals and the ethicalness of using them in research will continue to be hotly debated by people in Canadian society. Dr Neil, who considers himself to be an animal lover and whose family owns two dogs, one horse, five cats and two rabbits, was for many years a colleague of one of the United States' foremost American philosophers studying animal rights, Bernard Rollin. Dr Neil's views were shaped by his association with Rollin, and by such books as Rollin's *The Unheeded Cry: Animal Consciousness, Animal Pain and Science* (1989).

"It's been said by many of the extremists that we would likely have come upon many of the benefits of modern medicine by other means than the use of animals. Now, knowing the state of our knowledge in the latter part of the 19th century and today, I would question that statement," says Dr Neil. "The facts speak for themselves. There have been enormous benefits to mankind in the last 100 years or so both in basic science and applied medical science. Much of it has occurred in this century."

"In the majority of cases, the use of animals has been absolutely essential to the discovery process. Without them, the discoveries would simply not have occurred," he says, citing the development of anti-bacterial drugs.

"I certainly don't have any problems with those people who are advocates for animal rights," he says. "When I think of the use of animals in research—and I think the majority of scientists I know would agree—if we had our druthers, we'd rather not use animals in research. It's the information we want."



David Neil, Director of the Division of Health Sciences Laboratory Animal Services

trolled and the level and duration of light regulated by timers.

"Security is also a major issue," says Dr Neil, who is responsible for supervising three veterinarians, five administrators and about 32 animal technologists. It's important the investment be adequately protected.

Until recently, the imperative for change has largely come as a result of requirements set out by the Canadian Council on Animal Care. "But the imperative for change from now into the next century will be the scientific imperative," and that will mean working predominantly with mice, Dr Neil predicts. Moreover, "if you don't have certain capabilities in your animal care facilities, you're not going to be able to do the kind of work that we want to do in the future."

While those past reports were scathing in their criticisms of the University's facilities, one of the things that has always been noted has been the quality of care given by animal technicians. Dr Neil speaks of a tangible tradition of caring for animals, something he says he noticed when he first came here.

"The drive is to find something out. We need to know something," he says, adding that people in medicine are driven by compassion to help their fellow men and women. "When you become involved with people who are dying ... you think 'my God, we've got to do something about this!'"

If people could find alternatives to the use of animals in research they would follow them, Dr Neil maintains, noting that he is directly responsible for the deaths of more than 100,000 animals every year. He deals with that fact by reminding himself that researchers are driven by compassion for their fellow men and women.

Dr Neil says everyone is working towards eliminating the need for the use of animals in research. And that's where the three "Rs"—replacement, reduction and refinement—come in. Refinement means making sure there are decent animal care facilities, using ever more precise techniques and ensuring that the science is impeccable, thus minimizing the use of animals in research. Replacement results when researchers find alternatives. And ultimately, that's what everyone is working towards, he says.

EVENTS

EXHIBITIONS

BRUCE PEEL SPECIAL COLLECTIONS

Until 21 February

"Twilight of the Raj"—an exhibition of books on the British in India with some letters to Lord Curzon. B7 Rutherford South. Hours: Monday and Friday, 8:30 am to 4:30 pm; Tuesday to Thursday, 8:30 am to 6 pm; Saturday, noon to 5 pm; Sunday, closed.

CLOTHING AND TEXTILES

Until 30 April

"What is Textile Conservation?" This exhibit explains the concerns and work of textile conservators using examples of textile treatments from the lab of Conservation Services. Basement, Home Economics Building. Hours: Monday to Friday, 8 am to 5 pm.

DESIGN ZONE GALLERY

Until 10 February

"Early Work"—an exhibit by students in the Industrial Design Program. The exhibit showcases an eclectic collection of furniture and storage devices constructed from recycled materials, plus models of desert cacti. Hours: Monday to Wednesday, 10 am to 5:30 pm; Thursday and Friday, 10 am to 9 pm; Saturday, 10 am to 5:30 pm. 2nd Floor, CityCentre.

FAB GALLERY

Two print exhibitions, "Imprint", featuring the work of Doris Freadrich, Walter Jule, Michele Lavoie and Lyndal Osborne, and "Light-word", mezzotints by Malgorzata Zurakowska, will be held 29 January to 16 February.

Keith Rose, oil on wood panel, entitled "Large Tooth Fairy". Rose's work concludes 26 January at the FAB Gallery.



MCMULLEN GALLERY

Until 27 January

"Sand, Fire and Light"—an exhibition, curated by E Ross Bradley, of work by contemporary Albertan glass artists John Norton, Helen Kovacs, Mark Gibeau, Lorie Hedemark and Barbara Pierce. Gallery hours: Monday to Friday, 10 am to 4 pm; Saturday and Sunday, 1 to 4 pm (subject to availability of volunteers). Information: 492-8428, 492-4211. Walter C Mackenzie Health Sciences Centre.

MUSIC

DEPARTMENT OF MUSIC

26 January, 8 pm

Visiting Artists—Hugh Maguire, violinist; Tricia Maguire, violist; and guests. Convocation Hall.

31 January, 8 pm

Faculty Recital—Debra Ollickala, soprano, with Stephane Lemelin, pianist. Convocation Hall.

2 February, 3 pm

Hammerhead Consort Recital. Convocation Hall.

2 February, 8 pm

Hugh Maguire, violinist; Tricia Maguire, violist; and guests. Convocation Hall.

FRIENDS OF THE SLAVIC COLLECTION

6 February, 8 pm

Joseph Fridman, piano. Information: 492-3537. Convocation Hall.

SPORTS

BASKETBALL

24 and 25 January, 6:30 pm Pandas vs Victoria

24 and 25 January, 8:15 pm Bears vs Victoria

31 January and 1 February, 6:30 pm

Pandas vs Lethbridge

31 January and 1 February, 8:15 pm

Bears vs Lethbridge

VOLLEYBALL

6 February, 6:15 pm Pandas vs Calgary

6 February, 8 pm Bears vs Calgary

THEATRE

STUDIO THEATRE

6 to 15 February

"The Superior Residence" by Carlo Goldoni. Box office: 492-2495. Myer Horowitz Theatre.

ACCOUNTING

24 January, 2 pm
Vaughan Radcliffe, "Governance for Government: Construction of Government Accounting in Alberta." B-05 Business Building.

ALBERTA CENTRE FOR WELL-BEING

30 January, 7:30 pm
Judy Sefton, "Well-Being Information: Who Do Albertans Turn to And How Often?" E-120 Van Vliet Centre.

APPLIED MATHEMATICS INSTITUTE

28 January, 3:30 pm
Francis Zwiers, Canadian Climate Centre, Toronto, "Climate Modelling and the Analysis of Experiments Conducted with Climate Models." 657 CAB.

ANTHROPOLOGY

4 February, 2:30 pm
Charles Schweger, "Rising Waters: Impacts of Global Change on the North and Northerners." L-2 Humanities Centre.

ANTHROPOLOGY AND MUSIC

3 February, 3 pm
Anthony Seeger, curator, The Folkways Collection, Smithsonian Institution, "Textures of Sounds and Networks of People: Music and Society Among the Suya Indians of Brazil." 14-6 Tory Building.

ART AND DESIGN

28 January, 5 pm
Edward Aoki, "A Possible Theoretical Position: Painting as an Ethical Text." 2-20 Fine Arts Building.

BOTANY

30 January, 4 pm
William (Ned) Friedman, Department of Botany, University of Georgia, "The Origin of Flowering Plants: An Examination of Darwin's 'Abominable Mystery'." M-149 Biological Sciences Centre.

CANADIAN AUTHORS' ASSOCIATION

31 January, 8 pm
Wayne Moriarty, editor of the Life Section, *Edmonton Journal*, "Tips to Freelance Writers." \$2 charge for nonmembers. Faculty Lounge, 10th Floor, Education Building.

CANADIAN CIRCUMPOLAR INSTITUTE AND ZOOLOGY

24 January, noon
Sue Olsen, "Fire Severity and Treeline Composition at Treeline: Climate Change Implications." G-116 Biological Sciences Centre.

CENTRE FOR INTERNATIONAL BUSINESS STUDIES

29 January, 3:30 pm
Timothy Huang, chairman, Department of Trade and Economics, Southeast University, Nanjing, "Joint Ventures in China." RSVP: 492-2235. 4-16 Business Building.

CENTRE FOR RESEARCH IN CHILD DEVELOPMENT AND PSYCHOLOGY

30 January, 7:30 pm
John G Borkowski, Andrew J McKenna Professor of Psychology, University of Notre Dame, "Moving Metacognition into the Classroom: The Role of 'Working Models' in Strategy-Based Teaching." Room 412, Edmonton Catholic Schools Administration Centre, 9807 106 Street.
31 January, 1 pm
John G Borkowski, "Motivational Underpinnings of Sustained Self-Regulated Learning." CW-410 Biological Sciences Centre.

CHEMICAL ENGINEERING

30 January, 3:30 pm
P Nawrocki, "Transport Phenomena in Rivulet Flow." 342 Chemical-Mineral Engineering Building.
6 February, 3:30 pm
P Jokuty, "Resistant Nitrogen Compounds in Synthetic Crude Oil: The Case Against Quinoline as a Model Compound." 342 Chemical-Mineral Engineering Building.

CHEMISTRY

27 January, 11 am
Frederick G West, Department of Chemistry, University of Utah, "New Photochemical Approaches to Complex Molecule Synthesis." V1-07 Physics Building.

COMPUTING SCIENCE

27 January, 3:30 pm
Helmut Horacek, Universitat Bielefeld, Germany, "Towards Finding the Reasons Behind Generating the Content of Explanations." 619 General Services Building.
28 January, 2 pm
Helmut Horacek, "The Role of Goals in Dialog Control." 628 General Services Building.
29 January, 2 pm
James K Mulling, University of Western Ontario, "Some Novel Uses of the Bloom Filter Data Structure." 619 General Services Building.

EDUCATION

50th Anniversary Lecture Series—Teacher Education: Past and Future
6 February, 3:30 pm
Nancy Sheehan, dean, Faculty of Education, University of British Columbia, "Teacher Education: Past and Future." MAP Room, Lister Hall.

ENGLISH

29 January, 4 pm
Research Seminars in Early Women. Linda Harrison, "Undue Influence: The Circumscription of the Life and Writings of Mrs Frances Sheridan." 6-40 Humanities Centre.
Rights of Woman/Wrongs of Woman 1792-1992
30 January, 1 pm
Isobel Grundy, "Female Worthles, Scolds, Quakers, and Prophets: What Was Feminism Before Wollstonecraft?" L-3 Humanities Centre.
30 January, 2 pm
Gary Kelly, "Religion, Sex, and Politics in Wollstonecraft's Revolutionary Feminism." L-3 Humanities Centre.
30 January, 3 pm
Patricia Demers, "Educating Women to Save the Nation and Serve the State: Wollstonecraft and a Bluestocking Sister." L-3 Humanities Centre.
30 January, 4 pm
Reading of original work by Kristjana Gunnars and Aritha Van Herk. L-3 Humanities Centre.
31 January, 1 pm
Anne McWhir, Department of English, University of Calgary, "Mary Wollstonecraft: Sex, Sensibility, and Revolution." L-3 Humanities Centre.
31 January, 2 pm
Susan Hamilton, "Wollstonecraft and Victorian Feminism." L-3 Humanities Centre.
31 January, 3 pm
Janice Dickin-McGinnis, Department of General Studies, University of Calgary, "Feminism and Prostitution: If Mary Wollstonecraft Were on the Supreme Court of Canada." L-3 Humanities Centre.
31 January, 4 pm
Ruth Smillie, artistic director, Catalyst Theatre, will read from Wollstonecraft's feminist novel *The Wrongs of Woman*. L-3 Humanities Centre.

ENGLISH -

1992 EDMUND KEMPER BROADUS LECTURES

3 February, 4 pm
Muriel Whitaker, "Arthur as Icon: Reviving a National Mythology." L-1 Humanities Centre.
5 February, 4 pm
Dr Whitaker, "Knight-Errant: The Very Model of a Modern English Gentleman." L-1 Humanities Centre.
7 February, 4 pm
Dr Whitaker, "Dreams of Fair Women: Gender Attitudes in Arthurian Painting." L-1 Humanities Centre.

ENTOMOLOGY

6 February, 4 pm
Marie-Pascale River, "Oviposition Behaviour and Physiology in Spruce Budworm *Choristoneura fumiferana*." TBW-1 Tory Breezeway.

GEOGRAPHY

24 January, 3 pm
Doug Porteous, University of Victoria, "The Geography of Being." 3-36 Tory Building.
31 January, 3 pm
Pat McCormack, Curator of Ethnohistory, Provincial Museum of Alberta, "Fort Chipewyan and the Northern Expansion of the Canadian State." 3-36 Tory Building.



HISTORY

24 January, 3 pm
Paul J Vanderwood, Department of History, San Diego State University, "Millenarianism, Popular Religion and Rebellion in Mexico." Both lectures cosponsored by Anthropology. 2-58 Tory Building.
29 January, 4 pm
Charlotte Ku, American Society of International Law, "New Risks of the Post-Cold War Period and their Implications for the UN, NATO and Regional Arrangements." 2-58 Tory Building.

HUMAN ECOLOGY: ISSUES IN THE NORTH

28 January, 2:30 pm
Stewart Elgie, "Greener Side of the Fence: Comparison of Mining Regulations in the Yukon and Alaska." L-2 Humanities Centre.
4 February, 2:30 pm
Charles Schweger, "Rising Waters: Impacts of Global Change on the North and Northerners." L-2 Humanities Centre.

INTERNATIONAL CENTRE

27 January, noon
"In the Kampongs of Surabaya", video, 26 minutes; and "Producing Miracles Everyday", video, 23 minutes. 172 HUB International.
27 January, 4 pm
Mildred Wilson de Levy, Mesquito indigenous woman from Puerto Cabezas on the Atlantic Coast of Nicaragua, "Visit With a Nicaraguan Elder." Cosponsor: Students' International Health Association. 172 HUB International.

JOINT-CLINICAL ETHICS SEMINARS

28 January, 12:30 pm
Hari S Chana, Thomas G Dailey, Steven K Aung, and Zaheerali Lakhani, "The Meaning of Suffering: Multicultural Perspectives." Sponsor: The Division of Bioethics. 2F1.04 Mackenzie Health Sciences Centre.

LAW

27 January, 7:30 pm
Rick Gossen, managing director, Asterra International Property and Capital Ltd, Hong Kong, "Promoter Beware: Legal and Business Aspects of Offering Canadian Property and Immigration-Linked Investments in Hong Kong." 231/237 Law Centre.
28 January, noon
Rick Gossen, "Pacific Rim Property: Marketing Yourself and Your Company." 113 Law Centre.
28 January, 2:30 pm
Stewart Elgie, "Greener Side of the Fence: Comparison of Mining Regulations in the Yukon and Alaska." L-2 Humanities Centre.

LIMNOLOGY AND FISHERIES

DISCUSSION GROUP

30 January, 12:30 pm
Jeff Curtis, "Factors Regulating the Concentration of Dissolved Organic Carbon in East Central Alberta Lakes." M-149 Biological Sciences Centre.
6 February, 12:30 pm
John Magnuson, University of Wisconsin, "How Similar Are the Fluctuations in Fish Year Class Strength in Adjacent Lakes?" M-149 Biological Sciences Centre.

MUSIC

27 January, noon
David Palmer, University of Windsor, "Massiaen: The Colour of Sound." Convocation Hall.
30 January, 3:30 pm
Richard Troeger, "The Clavichord and Keyboard Techniques." 2-32 Fine Arts Building.
4 February, 2 pm
Anthony Seeger, curator, The Folkways Collection, Smithsonian Institution, "The World's Most Amazing Record Company: An Ethnomusicologist Goes to Town at Folkways." 2-32 Fine Arts Building.

NURSING GRADUATE STUDENTS' ASSOCIATION

27 January, noon
Lillian Douglass, AARN President-Elect, "Nursing in the 90's." 2-115 Clinical Sciences Building.

PHYSICS

3 February, 2 pm
Sean Carroll, Harvard University, "How to Build a Time Machine in 2+1 Dimensions." 631 Avadh Bhatia Physics Laboratory.

PLANT SCIENCE

28 January, 12:30 pm
Sungmun Kim, "Influence of Herbicidal Structure in Translocation." 1-06 Agriculture-Forestry Centre.
30 January, 12:30 pm
Michell Cotton, "Immunoassay for Detection of Herbicides in Soil." 1-06 Agriculture-Forestry Centre.
4 February, 12:30 pm
DooHing Min, "Alfalfa Management." 1-06 Agriculture-Forestry Centre.
6 February, 12:30 pm
Jay Kennedy, "Antimitotic Mechanism of Rhizoxin." 1-06 Agriculture-Forestry Centre.

RURAL ECONOMY

27 January, 3:15 pm
Glen Mumey, "The Real Value of the Alberta Heritage Trust Fund." 519 General Services Building.

SAFETY ON CAMPUS COMMITTEE AND CHAPLAINS' ASSOCIATION

30 January, 4:30 pm
"Understanding Suicide Prevention Issues"—a forum on prevention and intervention and help available. Tory Lecture Basement I.

SOCIOLOGY

28 January, 12:30 pm
Gordon Laxer, "Distinct Status for Quebec: A Benefit for English-Speaking Canada?" TBW-2 Tory Breezeway.
30 January, 12:30 pm
Larry Chartrand, "Aboriginal Participation in Constitutional Reform." TBW-2 Tory Breezeway.
4 February, 12:30 pm
Susan Jackel, "Women and Constitutional Reform." TBW-2 Tory Breezeway.

SOIL SCIENCE


30 January, 12:30 pm
RL Busch, "The Prevention of Scientific and Scholarly Misconduct." 2-36 Earth Sciences Building.
6 February, 12:30 pm
Doug Penney and Elston Solberg, Soils Branch, Alberta Agriculture, "Micronutrient Deficiencies in Alberta—Extent, Crops Affected, Effects on Crop Yield and Quality." 2-36 Earth Sciences Building.

UNIVERSITY TEACHING SERVICES

3 February, 3 pm
Derek Wilson, "Thinking About Teaching—A Toolbox for the Structuring of Teaching." 349 CAB.
4 February, 3:30 pm
Betty Moulton, "Practical Experience with the Vocal Tools of Communication." 2-103 Education North.
6 February, 12:30 pm
Roberta McKay, "Using Journals: A Window of Your Teaching and Your Students' Learning." 349 CAB.

ZOOLOGY

24 January, 3:30 pm
Gary Wobeser, Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan, "The Relationship Among Habitat Change, Management, and Disease in Wild Waterfowl." M-149 Biological Sciences Centre.
31 January, 3:30 pm
FH Bronson, director, Institute of Reproductive Biology, University of Texas, "Photoperiod, Latitude and Seasonality in Mammals." M-149 Biological Sciences Centre.

 This symbol denotes environmentally related seminars/events. If you wish to have an environmentally related event listed in this way, please contact: The Environmental Research and Studies Centre, 492-6659.

POSITIONS



The University of Alberta is committed to the principle of equity in employment. The University encourages applications from aboriginal persons, disabled persons, members of visible minorities and women.

ACADEMIC

CHAIR, DEPARTMENT OF PHYSICAL EDUCATION AND SPORT STUDIES

The Faculty of Physical Education and Recreation invites applications and nominations for the position of Chair of the Department of Physical Education and Sport Studies. The department offers a Bachelor of Physical Education degree and a joint BPE/BED degrees program. The department also houses the Division of Recreation and Leisure Studies which offers the Bachelor of Arts in Recreation Administration undergraduate degree program. Graduate programs offered by the department include MA, MSc, and PhD programs. Also included within the department are a number of research and service centres, including the Rick Hansen Centre, the Alberta Centre for Well-Being, the Pat Austin Centre and the U of A Fitness Unit.

Specific responsibilities of the position include: leadership in undergraduate and graduate program development, implementation and evaluation; teaching at the undergraduate and/or graduate level; maintenance of an active research program.

The successful candidate should have an outstanding teaching and research record and possess excellent leadership qualities. Applications (including a curriculum vitae and the names of three referees) and nominations should be submitted by 31 January 1992 to: Dr Art Quinney, Dean, Faculty of Physical Education and Recreation, W1-34 Van Vliet Centre, University of Alberta, Edmonton, Alberta T6G 2H9.

DIRECTOR, STUDENT COUNSELLING SERVICES

Unit description: Student Counselling Services has a staff complement of twelve psychologists, including six interns. Its major responsibility is the provision of a full range of counselling services to a student population in excess of 25,000. The unit also serves as a popular area for practicum placements from the master's and PhD programs in Educational Psychology.

Requirements: Currently chartered or eligible for chartering as a psychologist in the Province of Alberta. University counselling experience and demonstrated clinical skills dealing with a range of problem areas presented in a university population. Administrative and supervisory experience. An ability to coordinate activities in the Counselling Services Unit and cooperate with other units as part of Student Services.

Duties: Administration of Student Counselling Services in cooperation with other heads of services in the larger area of Student Services. Serves on a number of campus committees, supervises staff, including graduate interns and practicum students.

Coordinates all Counselling Services activities, including individual counselling in personal/social, career/vocational and academic problem areas; counselling for prospective University students; maintaining study/learning skills programs; test anxiety management activities; and coordinating areas of training and supervision. Responsible for setting budget and staff priorities and responsible for management of support staff. Responsible for evaluation of all staff for the purposes of determining salaries and promotions.

Terms of employment: Salary commensurate with training and experience. Continuing appointment with excellent fringe benefits.

To apply: Send letter of application, résumé, and the names of three referees to: Dr Peter Miller, Dean, Office of the Dean of Student Services, 245 Athabasca Hall, University of Alberta, Edmonton, Alberta T6G 2E8. Applications will be accepted through 28 February 1992. The starting date for the appointment will be 1 July 1992.

SUPPORT STAFF

To obtain further information on the following positions, please contact Personnel Services and Staff Relations, 2-40 Assiniboia Hall, telephone 492-5201. Due to publication lead time and the fact that positions are filled on an ongoing basis, these vacancies cannot be guaranteed beyond 17 January 1992. For a more up-to-date listing, please consult the weekly Employment Opportunities Bulletin and/or the postings in PSSR.

Positions available as of 17 January 1992.

The salary rates for the following positions reflect adjustments in accordance with the terms for the implementation of the Pay Equity Program.

The following positions retain salary rates in accordance with the previous classification system and pay plan.

CLERK TYPIST (Grade 5) (Part-time), Medical Lab Science, (\$1,325 - \$1,641) (prorated)

SECRETARY (Grade 5), Dental Health Care, (\$1,855 - \$2,298)

SECRETARY (Grade 5), Environmental Research and Studies Centre, (\$1,855 - \$2,298)

SECRETARY (Grade 5), Faculty of Nursing, (\$1,855 - \$2,298)

ADMINISTRATIVE CLERK (Grade 5), Educational Foundations, (\$1,855 - \$2,298)

SENIOR ACCOUNTS CLERK (Grade 6) (Term to 31 July 1992), Officer of the Comptroller (Treasury and Risk Management), (\$2,029 - \$2,530)

FIRE SAFETY TECHNICIAN (Grade 7), Physical Plant (Fire Safety Division), (\$2,210 - \$2,769)

The following positions retain salary rates in accordance with the previous classification system and pay plan.

CLERK STENO III (ASSISTANT TO THE COORDINATOR) (Trust), Physical Education (Fitness Unit), (\$1,565 - \$1,966)

SECRETARY (Trust/Term to 31 August 1992), Faculty of Medicine, (\$1,744 - \$2,228)

TECHNICIAN I (Trust/Term/Part-time/Hourly), Plant Science, (\$11.92/hour)

BIOCHEMISTRY TECHNICIAN I/II (Trust), Biochemistry (PENCE), (\$1,808 - \$2,639)

TECHNICIAN II/TECHNOLOGIST I (Trust), Biochemistry, (\$2,052 - \$2,876)

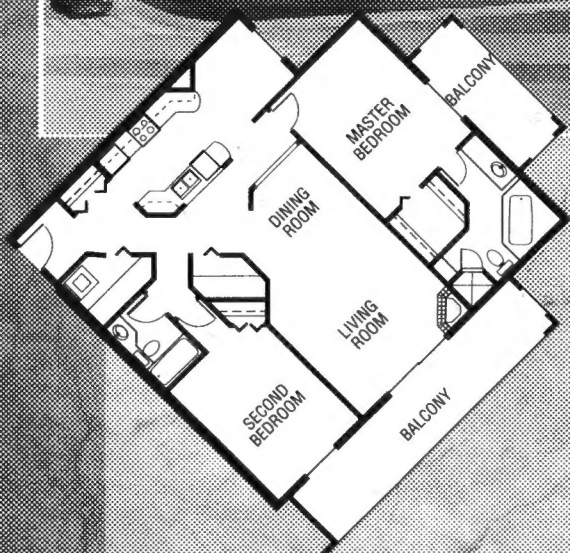
TECHNOLOGIST I (Trust), Biochemistry, (\$2,230 - \$2,876)

BIOCHEMISTRY TECHNOLOGIST I (Trust), Pharmacology, (\$2,230 - \$2,876)

TECHNOLOGIST I/II (Trust/Term to 30 June 1992), Medicine, (\$2,230 - \$3,140)

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SPECIAL EVENT:

TRI-COUNCIL GREEN PLAN FUNDING

On Wednesday, 29 January, two program officers will give a presentation on the new Green Plan Program and Eco-Research funding. The Green Plan Program was jointly established by Environment Canada and the three federal granting councils to support research and training in environmental studies. In total, \$50 million will be granted over six years.

The presentation will take place from 9 to 10:15 am in Tory Breezeway (Room 2). The program officers are also available for private appointments; these can be arranged by calling Susan Babcock at 492-2938.



The Senate of St. Stephen's College Invites Honorary Degree Nominations

St. Stephen's College is accepting nominations for recipients of the degree of Doctor of Divinity honoris causa to be conferred at the fall Convocation, 1992.

The degree recognizes and honours individuals who:

- have demonstrated outstanding commitment to the church's ministries
- have given meritorious service which contributes to the spiritual and social well-being of the community
- provide leadership in denominational and ecumenical circles

Please request nomination forms from the College by calling or writing to:

Dolores Bell

St. Stephen's College

8810 - 112 Street,

Edmonton, Alberta, T6G 2J6

Phone: (403) 439-7311

Deadline for nominations is March 15, 1992



ACCOMMODATIONS AVAILABLE

VICTORIA PROPERTIES - Experienced, knowledgeable realtor with Edmonton references will answer all queries, and send information. No cost or obligation. Call (604) 595-3200, Lois Dutton, Re/Max, Ports West, Victoria, BC.

RENT - Adjacent to golf course. Large executive home, front drive garage, four bedrooms plus loft. Furnished, unfurnished, 1 January, one year. Rent \$1,500/month. Western Relocation, 434-4629.

SALE - Riverbend, Ramsay Road, contemporary 2,300' two storey, three bedroom. Landscaped, fenced, vaulted ceilings. This house has everything! Janet Jenner/Jean Mill, Spencer Realty, 435-0808.

SALE - Garneau Mews, hi-style, two bedroom plus loft. Fireplace, air conditioning, underground parking. \$130,000. Janet Jenner, Spencer Realty, 435-0808, 435-5389.

SALE - Belgravia, spacious three bedroom bungalow, great oak woodwork. Quiet location, south backyard, asking \$169,900. Ed Lastiwka, Royal LePage Realty, 446-3800.

SALE - University area, luxury condo, 11114 83 Avenue. 1,316', two storey, two bedrooms, two bathrooms, fireplace, five appliances, cathedral ceiling, indoor parking, \$129,900. 439-5169.

RENT - Furnished room, near the University. Nonsmoker, \$300/month. Call 488-7425.

SALE - Belgravia, 7305 Saskatchewan Drive. Large bungalow on river view lot in quiet, park-like setting. Finished basement, double garage, \$295,000. Telephone 432-0358 evenings. Open house, 26 January, 1-4 pm.

SALE - Hampton Village condo, \$109,900. Five appliances in two bedroom unit. Secure with underground parking. George Rechico, Spencer Realty. 435-0808, 487-1873.

RENT - Allendale, furnished, two bedroom, single garage. Available January, \$900. Call Joe, 484-9251.

SALE - The Uplands, condominium, superb quality. Sunny, south facing, ground floor, 1,700', two bedrooms, security, underground parking. Ideal for the professionals who travel! Ann Dawrant, Spencer Realty, call 435-0808.

SALE - Spacious 2,464' family home on quiet crescent in St Albert. Four bedrooms upstairs, private deck off master, two fireplaces. Excellent condition! Call Mary O'Neill, Royal LePage, 458-5595.

SALE - North Garneau, charming two storey, hardwood floors, many improvements, double garage. One block to University. Jean MacKenzie, Spencer Realty, 435-0808.

RENT - Belgravia, basement, two rooms, bath, share upstairs, kitchen. From 1 February, \$400. Phone 492-0619, 434-0588.

SALE - Claridge House, spacious one bedroom, top floor. Walk to University. North-west exposure. Brick fireplace, two under-

ground stalls, five appliances, \$115,000.

Kenneth Colpitts, Re/Max Real Estate, 438-1575 (business), 445-7500 (pager).

SALE - By owner, west end, three bedroom townhouse, five appliances. Very clean, close to shopping, direct bus to University, \$68,500. 492-2825 or 481-3670.

SALE - University area, character, two storey home featuring four bedrooms, upgraded plumbing, wiring, heating and more. \$134,900. David Teasdale, Royal LePage Realty, 437-7480.

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PROFESSIONAL Belgravia family of two adults (nonsmokers), with four children (well behaved), needs furnished accommodation, 1 April - 30 August 1992. Linda, 434-9150.

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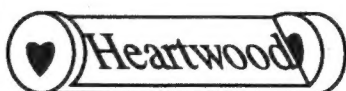
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